

Table 2
OEHHA/ARB APPROVED ACUTE REFERENCE EXPOSURE LEVELS AND TARGET ORGANS®

Chemical	Chemical▼ Abstract Number	Acute REL (µg/m ³)	Date ♦ Value Reviewed	Target Organs									
				Alimentary Tract	Cardiovascular	Developmental	Eye	Hematologic	Immune	Nervous	Reproductive	Respiratory	Skin
ACROLEIN	107-02-8	1.9E-01	4/99				X					X	
ACRYLIC ACID	79-10-7	6.0E+03	4/99				X					X	
AMMONIA	7664-41-7	3.2E+03	4/99				X					X	
ARSENIC AND COMPOUNDS (INORGANIC) ^{TAC}	7440-38-2 1016 [1015]	1.9E-01 ^{AveP}	4/99			X					X		
ARSINE	7784-42-1	1.6E+02	4/99					X					
BENZENE ^{TAC}	71-43-2	1.3E+03 ^{AveP}	4/99			X		X	X		X		
BENZYL CHLORIDE	100-44-7	2.4E+02	4/99				X					X	
CARBON DISULFIDE	75-15-0	6.2E+03 ^{AveP}	4/99			X				X	X		
CARBON MONOXIDE	630-08-0	2.3E+04	4/99		X								
CARBON TETRACHLORIDE ^{TAC} (Tetrachloromethane)	56-23-5	1.9E+03 ^{AveP}	4/99	X		X				X	X		
CHLORINE	7782-50-5	2.1E+02	4/99				X					X	
CHLOROFORM ^{TAC}	67-66-3	1.5E+02 ^{AveP}	4/99			X				X	X		
CHLOROPICRIN	76-06-2	2.9E+01	4/99				X					X	
COPPER AND COMPOUNDS	7440-50-8 [1067]	1.0E+02	4/99									X	
<i>Cyanide Compounds (inorganic)</i>	57-12-5 1073	3.4E+02	4/99							✓			
HYDROGEN CYANIDE (Hydrocyanic acid)	74-90-8	3.4E+02	4/99							X			
1,4-DIOXANE [♦] (1,4-Diethylene dioxide)	123-91-1	3.0E+03	4/99				X					X	
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106-89-8	1.3E+03	4/99				X					X	
<i>Fluorides and Compounds</i>	1101	2.4E+02	4/99				✓					✓	
HYDROGEN FLUORIDE (Hydrofluoric acid)	7664-39-3	2.4E+02	4/99				X					X	
FORMALDEHYDE ^{TAC}	50-00-0	9.4E+01	4/99				X		X			X	
GLYCOL ETHERS	1115		4/99										
ETHYLENE GLYCOL BUTYL ETHER – EGBE	111-76-2	1.4E+04	4/99				X					X	
ETHYLENE GLYCOL ETHYL ETHER – EGEE	110-80-5	3.7E+02 ^{AveP}	4/99 [1/92]			X					X		
ETHYLENE GLYCOL ETHYL ETHER ACETATE - EGEEA	111-15-9	1.4E+02 ^{AveP}	4/99			X				X	X		
ETHYLENE GLYCOL METHYL ETHER – EGME	109-86-4	9.3E+01 ^{AveP}	4/99			X					X		

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				Alimentary Tract	Cardiovascular	Developmental	Eye	Hematologic	Immune	Nervous	Reproductive	Respiratory	Skin
HYDROCHLORIC ACID (Hydrogen chloride)	7647-01-0	2.1E+03	4/99				X					X	
HYDROGEN CYANIDE (Hydrocyanic acid) ... (see Cyanide Compounds)													
HYDROGEN FLUORIDE (Hydrofluoric acid) ... (see Fluorides & Compounds)													
HYDROGEN SELENIDE ... (see Selenium & Compounds)													
HYDROGEN SULFIDE	7783-06-4	4.2E+01	4/99 [7/90]							X			
ISOPROPYL ALCOHOL (Isopropanol)	67-63-0	3.2E+03	4/99				X					X	
MERCURY AND COMPOUNDS (INORGANIC)	7439-97-6 [1133]	1.8E+00	4/99			X					X		
Mercuric chloride	7487-94-7	1.8E+00	4/99			✓					✓		
METHANOL	67-56-1	2.8E+04	4/99							X			
METHYL BROMIDE (Bromomethane)	74-83-9	3.9E+03	4/99			X				X	X	X	
METHYL CHLOROFORM (1,1,1-Trichloroethane)	71-55-6	6.8E+04	4/99							X			
METHYL ETHYL KETONE (2-Butanone)	78-93-3	1.3E+04	4/99				X					X	
METHYLENE CHLORIDE ^{TAC} (Dichloromethane)	75-09-2	1.4E+04	4/99							X			
NICKEL AND COMPOUNDS ^{TAC}	7440-02-0 [1145]	6.0E+00	4/99						X			X	
Nickel acetate,	373-02-4	6.0E+00	4/99						✓			✓	
Nickel carbonate	3333-39-3	6.0E+00	4/99						✓			✓	
Nickel carbonyl	13463-39-3	6.0E+00	4/99						✓			✓	
Nickel hydroxide	12054-48-7	6.0E+00	4/99						✓			✓	
Nickelocene	1271-28-9	6.0E+00	4/99						✓			✓	
NICKEL OXIDE	1313-99-1	6.0E+00	4/99						X			X	
Nickel refinery dust from the pyrometallurgical process	1146	6.0E+00	4/99						✓			✓	
Nickel subsulfide	12035-72-2	6.0E+00	4/99						✓			✓	
NITRIC ACID	7697-37-2	8.6E+01	4/99									X	
NITROGEN DIOXIDE	10102-44-0	4.7E+02	4/99 [1/92]									X	
OZONE	10028-15-6	1.8E+02	4/99 [1/92]				X					X	
PERCHLOROETHYLENE ^{TAC} (Tetrachloroethylene)	127-18-4	2.0E+04	4/99				X			X		X	

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				Alimentary Tract	Cardiovascular	Developmental	Eye	Hematologic	Immune	Nervous	Reproductive	Respiratory	Skin
PHENOL	108-95-2	5.8E+03	4/99				X					X	
PHOSGENE	75-44-5	4.0E+00	4/99									X	
PROPYLENE OXIDE	75-56-9	3.1E+03	4/99			X	X					X	X
<i>Selenium and Compounds</i>	7782-49-2 [1170]												
HYDROGEN SELENIDE	7783-07-5	5.0E+00	4/99				X					X	
SODIUM HYDROXIDE	1310-73-2	8.0E+00	4/99				X					X	X
STYRENE	100-42-5	2.1E+04	4/99				X					X	
SULFATES	9960	1.2E+02	4/99									X	
SULFUR DIOXIDE	7446-09-5	6.6E+02	4/99 [1/92]									X	
SULFURIC ACID AND OLEUM	7664-93-9	1.2E+02	4/99									X	
<i>SULFURIC ACID</i>	7664-93-9	1.2E+02	4/99									✓	
<i>SULFUR TRIOXIDE</i>	7446-71-9	1.2E+02	4/99									✓	
<i>OLEUM</i>	8014-95-7	1.2E+02	4/99									✓	
TOLUENE	108-88-3	3.7E+04	4/99			X	X			X	X	X	
TRIETHYLAMINE	121-44-8	2.8E+03	4/99				X			X			
<i>Vanadium Compounds</i>	N/A												
<i>Vanadium (fume or dust)</i>	7440-62-2	3.0E+01	4/99				✓					✓	
VANADIUM PENTOXIDE	1314-62-1	3.0E+01	4/99				X					X	
VINYL CHLORIDE ^{TAC} (Chloroethylene)	75-01-4	1.8E+05	4/99				X			X		X	
XYLENES (mixed isomers)	1330-20-7 1210	2.2E+04	4/99				X					X	
m-Xylene	108-38-3	2.2E+04	4/99				X					X	
o-Xylene	95-47-6	2.2E+04	4/99				X					X	
p-Xylene	106-42-3	2.2E+04	4/99				X					X	

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Notes:

▼	Chemical Abstract Number (CAS): For chemical groupings and mixtures where a CAS number is not applicable, the 4-digit code used in the “Hot Spots” Emission Inventory Criteria and Guidelines (EICG) Report is listed. The 4-digit codes enclosed in brackets [] are codes that have been phased out, but may still appear on previously reported “Hot Spots” emissions. For information on the origin and use of the 4-digit code, see the EICG report.
◆	Date Value Reviewed [Added]: These columns list the date that the health value was last reviewed by OEHHA and the Scientific Review Panel, and/or approved for use in the AB 2588 Air Toxics “Hot Spots” Program. April 1999 is listed for the cancer potency values and noncancer acute RELs, which have been adopted by the OEHHA as part of the AB 2588 “Hot Spot” Risk Assessment Guidelines. February 2000, April 2000, and January 2001 are listed for the first set of 22, the second set of 16, and the third set of 22 noncancer chronic Reference Exposure Levels. October 2000 is listed for the oral chronic Reference Exposure Level and Oral Cancer Potency values. If the health value is unchanged since it was first approved for use in the “Hot Spots” Program, then the date that the value was first approved for use by CAPCOA is listed within the []. For the substances identified as Toxic Air Contaminants, the Air Resources Board hearing date is listed. The dates for acetaldehyde, benzo[a]pyrene, and methyl tertiary-butyl ether represent the dates the values were approved by the Scientific Review Panel. 1996 is listed for the U.S. EPA Reference Concentrations.
TAC	Toxic Air Contaminant: The Air Resources Board has identified this substance as a Toxic Air Contaminant.
⊕	Substances written in <i>italics</i> and a with ✓ are included in this table to clarify applicability of OEHHA adopted health effects values to substances listed in the “Hot Spots” list of “ <i>Substances For Which Emissions Must Be Quantified</i> ”.
AveP	The averaging period of noncancer acute RELs is generally a one-hour exposure. However, some are based on several hour exposure for reproductive/developmental endpoints (see section 1.6 of OEHHA’s technical support document for <i>The Determination of Acute Reference Exposure Levels for Airborne Toxicants, March 1999</i>). The RELs for the following substances must be compared to modeled emission concentrations of the same duration rather than maximum one-hour concentrations (e.g., a 4-hour REL should be compared to the maximum 4-hour average concentration from the air dispersion model). 4-Hour: Arsenic and Inorganic Arsenic Compounds 6-Hour: Benzene, Carbon disulfide, Ethylene glycol ethyl ether, Ethylene glycol ethyl ether acetate, Ethylene glycol methyl ether 7-Hour: Carbon tetrachloride, Chloroform
✚	1,4-Dioxane: The acute and chronic RELs for 1,4-Dioxane are incorrectly listed as 2.0E+01 and 4.0E+00 respectively in some editions of the <i>CAPCOA Revised 1992 Risk Assessment Guidelines (October 1993)</i> .

Table last updated: September 13, 2001